REMARKS/ARGUMENTS

The claims are 1-3, 5-17 and 19-22. Claim 1 has been amended to improve its form and to better define the invention. Claim 2 has been amended to incorporate the subject matter of claim 18. Accordingly, claim 18 has been canceled, and claims 19-21, which previously depended on claim 18, have been amended to depend on claim 2. Claims 20 and 21 have also been amended to improve their form. Claim 3 has been amended to incorporate the subject matter of claim 4. Accordingly, claim 4 has been canceled, and claim 5, which previously depended on claim 4, has been amended to depend on claim 3. In addition, claims 6, 10, 13 and 14 have been amended to improve their form. Claim 12 has been amended to correct a reference numeral, claim 15 has been amended to better define the invention to which claim 15 is directed and claim 17 has been amended to correct a typographical error. Support for the claims may be found, *inter alia*, in the disclosure at pages 5-6. Reconsideration is expressly requested.

Claims 1-21 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite because claims 1, 4, 6, 10, 13, 14 and 20 include the terms "preferably" or "particularly" which were considered indefinite. In response, Applicant has amended

claims 1, 6, 10, 13, 14 and 20, *inter alia*, to improve their form, and has canceled claim 4. It is respectfully submitted that all currently pending claims fully comply with 35 U.S.C. 112, second paragraph, and Applicant respectfully requests that the rejection on that basis be withdrawn.

Claims 1-5, 15 and 22 were rejected under 35 U.S.C. 102(b) as being anticipated by *Wagner U.S. Patent No. 4,729,515* or *DE 201 11 752*. The remaining claims 6-14 and 16-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Wagner* or *DE '752*. Essentially, the Examiner's position was that each of *Wagner* and *DE '752* discloses the device recited in the claims except for matters which were considered by the Examiner obvious design choices.

This rejection is respectfully traversed.

As set forth in claim 1 as amended, Applicant's invention provides a device for comminuting empty containers selected from the group consisting of beverage bottles and beverage cans made of plastic/PET or tin plate. The device includes a housing/frame 1, having a fill-in opening 2 and an exit opening 3, a cutting unit 4 disposed in the housing 1, and means for drive and control

of the cutting unit 4. The cutting unit 4 contains at least cutting rollers 4.1 and 4.2 disposed at a distance from one another with regard to their axes of rotation.

The cutting unit 4 is a cutting unit used for shredding paper or paperboard in document shredders, in which each cutting roller 4.1 and 4.2 has multiple cutting disks 5, which are each disposed at an axial distance from one another by means of a circumferential groove (gap E).

The axes of rotation A1 and A2 of the cutting rollers 4.1 and 4.2 are disposed at an axial distance from one another in such a manner that adjacent cutting disks 5 of the two cutting rollers 4.1 and 4.2 mesh. A gap, the cutting play 16, is present between two side flanks 5.2 of adjacent cutting disks 5, which flanks face one another, in each instance.

In this way, Applicant's invention provides a device for comminuting empty containers, particularly beverage bottles and/or beverage cans, respectively, made of plastic particularly PET bottles, or tin plate, respectively, in such a manner that the comminution is guaranteed reliably and in high quality, and that the production costs and the maintenance expenditure are

low.

The device according to *DE '752* is only supposed to compact hollow bodies similar to tetrapacks or consisting of plastic materials, not comminute them into small pieces. See page 2 of *DE '752*.

Wagner teaches a person skilled in the art that cutting mechanism/cutting units of document shredders (paper shredding machines) could fundamentally be used for comminuting beverage containers made of plastic (plastic bottles) or metal cans (metal cans) into narrow strips (small pieces), if the same were also specially adapted. See col. 1 of *Wagner*.

The cutting unit of the *Wagner* device consists of cutting disks 62 and 64, respectively, which are individually set onto a shaft 42 and 44, respectively, in each instance, see FIG. 4 of *Wagner*. The distance between two adjacent disks 62, in each instance, on the shaft 42, is produced by means of the cutting disk 64 that engages between two cutting disks 62, in meshing manner, and is set onto the other, opposite shaft 44, which means that no gap is present between the side flanks of adjacent cutting disks 62, 64 that face one another.

In the case of *Wagner's* device, the cutting teeth 72 are produced as tips (arrows) directed radially outward. This arrangement, however, has the disadvantage that a container being passed to the cutting unit jumps/dances around on these tips (72, 78) and only gets between the cutting disks (62 and 64) by means of significant pressure, which must be produced by the separators/selectors (96).

Although it is true that the individual parts of the cutting unit of *Wagner*, in other words the cutting disks 62 and 64, the accommodating shafts 42 and 44, in themselves, and the strippers 80, can be produced in cost-advantageous manner, nevertheless, additional effort and expenditure is required for assembly of these individual parts into a cutting unit because the individual parts must be assembled with great precision. Otherwise, significant friction forces would occur in the movement of their parts, thereby making increased drive power necessary.

As can be seen from col. 3, lines 40 ff and FIG. 5 of *Wagner*, additional elements (see FIG. 5, the elements 66, 68, and 70) on the shafts 42 and 44 and the cutting disks 62 and 64 are necessary in order to pass force/torque from the driven shaft 42/44 to the cutting disks 62, 64.

All of these features are in contradiction to the "Summary of Invention," at column 1, line 49-51 of *Wagner* of achieving the goal of simple production.

Attached hereto as Appendix 1 is an annotated sketch of FIG. 5 of *Wagner*. As is evident from Appendix 1, the device there functions only if two separators/selectors precede the cutting mechanism. Specifically, a bottle (FL) that lies crosswise/horizontally would be pressed away sideways by the vanes (96) of a single separator/selector, not towards the intake gap/feed device (ZR).

Furthermore, as the sketch in Appendix 1 shows, it is not possible to feed any desired size of PET bottles or metal cans to the cutting unit using the device according to *Wagner*. Starting from a certain size/thickness/diameter, as shown in Appendix 1, the vanes (96) move sideways past the container (FL), or actually away from it, specifically if pressure on the bottle is required in regard to guiding it to the cutting unit.

The strippers 80 are also set on individually or as a packet, and here, completely surround the shaft 42 or 44 in each instance. See Appendix 2a and Appendix 2b attached hereto in

which the relevant stripper is marked in yellow and green, respectively, in FIGS. 5 and 4 of *Wagner*. Because of the complete enclosure of the shaft 42, 44, in each instance, only little space remains for passing/pushing the cut strips/pieces through the cutting mechanism. This little space is marked with red/orange in Appendix 2a and Appendix 2b.

In Applicant's device as recited in claim 1 as amended, the cutting rollers 4.1 and 4.2, together with the cutting disks 5 of the cutting unit 4, are produced from one piece. The cutting disks 5 are produced by means of circumferential grooves (E) in the related cutting roller 4.1 or 4.2, respectively.

A gap, the cutting play 16, is provided between the side flanks 5.2 of adjacent cutting disks 5, which flanks face one another. Only in this way can high-quality chips (flakes) be produced from PET bottles or metal cans, which do not have the stated disadvantages of known devices as discussed in Applicant's disclosure. In other words are not ragged and do not have any so-called white fractures.

Claim 3 as amended, further specifies that a separator/selector 10 is disposed ahead of the cutting mechanism and that the separator/selector is a vane shaft that possesses

three or four vanes 12, the free vane ends of which trail, seen in the direction of rotation (R'). This feature is neither disclosed nor suggested by *Wagner* or *DE '752*. Thus, it is respectfully submitted that claim 3 is patentable over the cited references for this additional reason.

In summary, claims 1-3, 5, 6, 10, 12-15, 17 and 19-21 have been amended, and claims 4 and 18 have been canceled. In view of the foregoing, it is respectfully requested that the claims be allowed and that this case be passed to issue.

Respectfully submitted,

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Enclosures: Appendices 1, 2a, and 2b

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 15, 2008.

Amy Klein

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APPENDIX 1

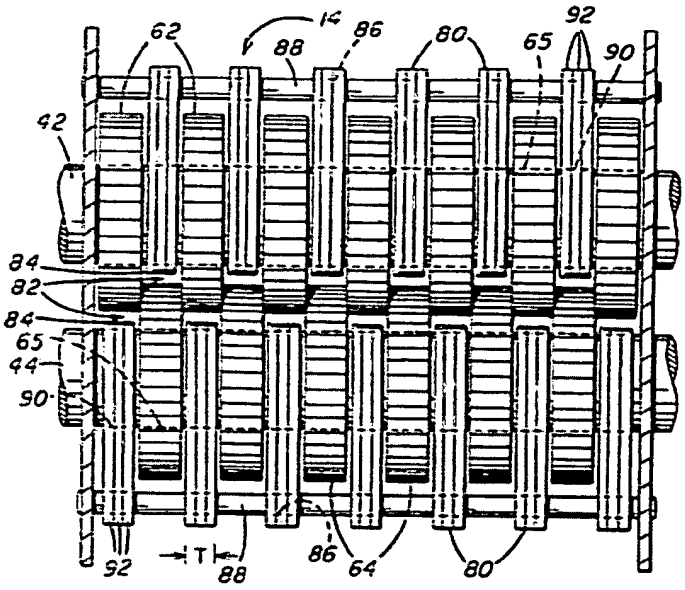

FIG. 4

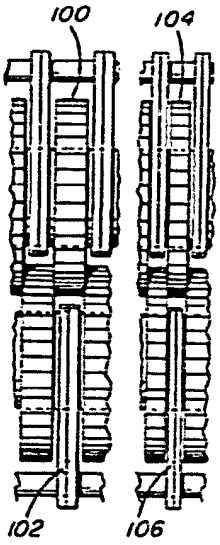

FIG.6 FIG.7

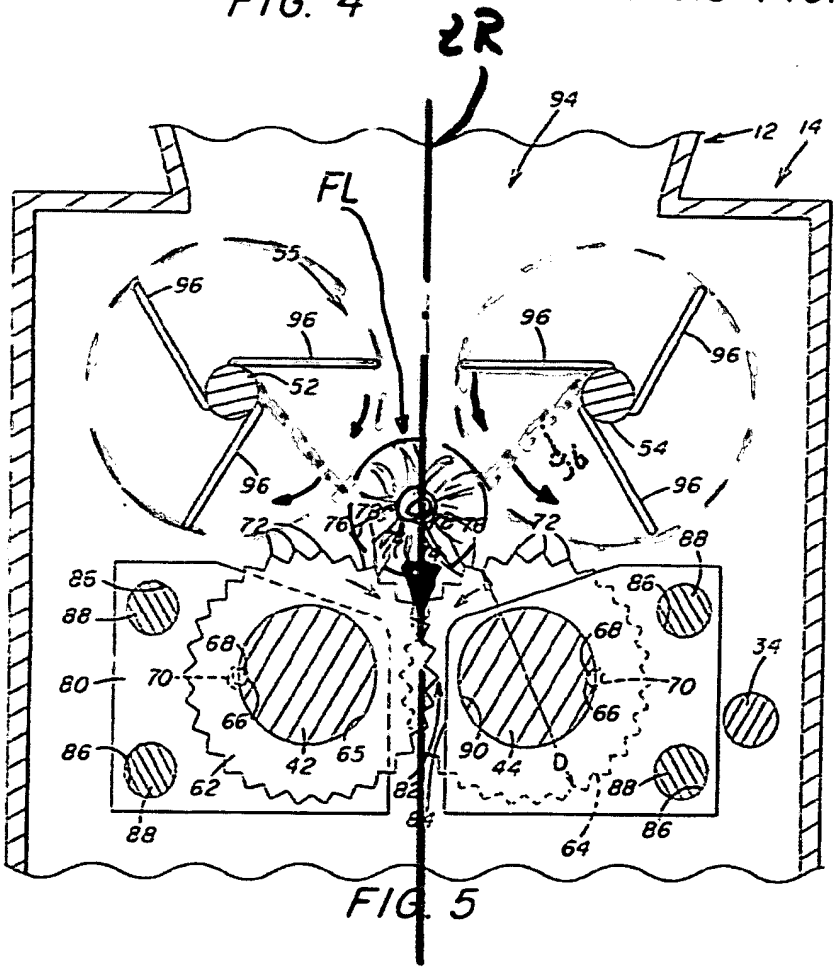

FIG. 5

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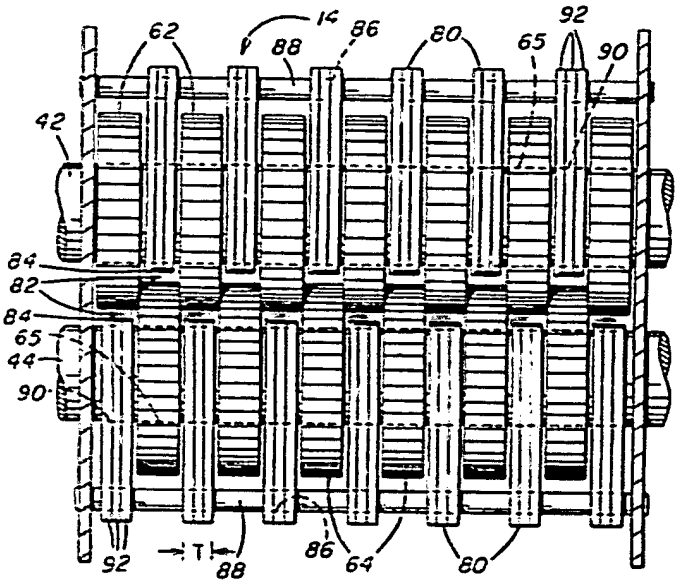

FIG. 4

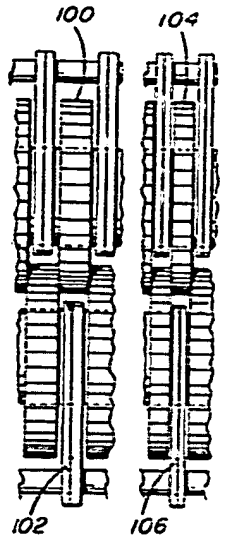

FIG.6 FIG.7

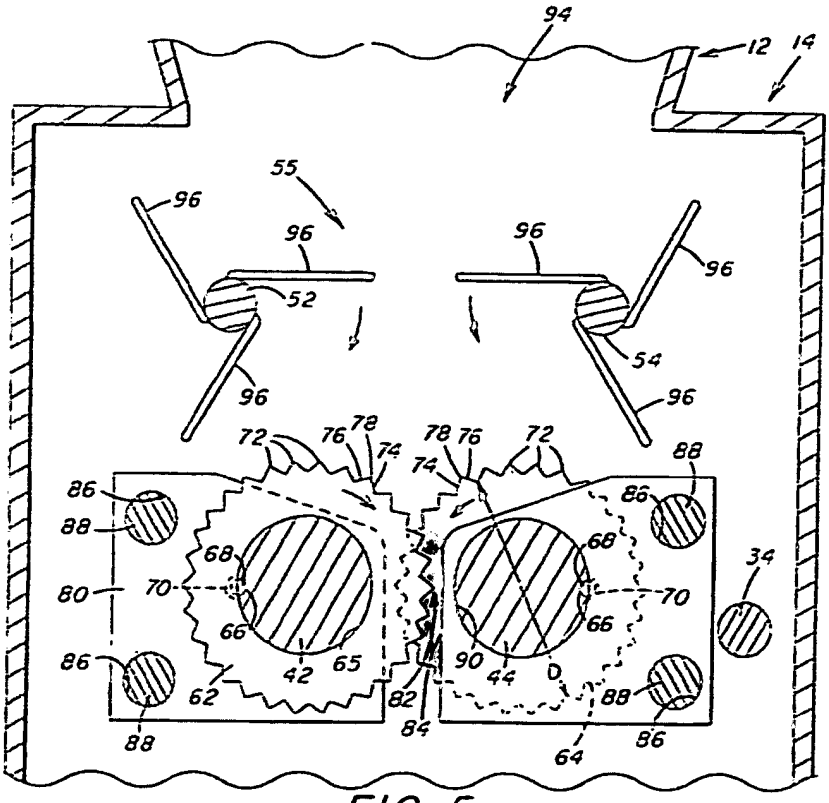

FIG. 5

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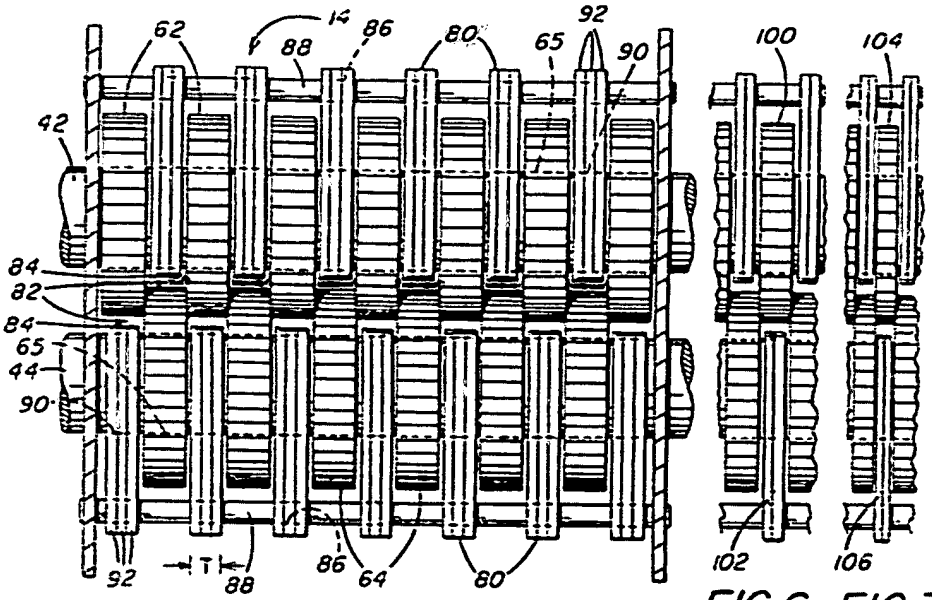

FIG. 4

FIG.6 FIG.7

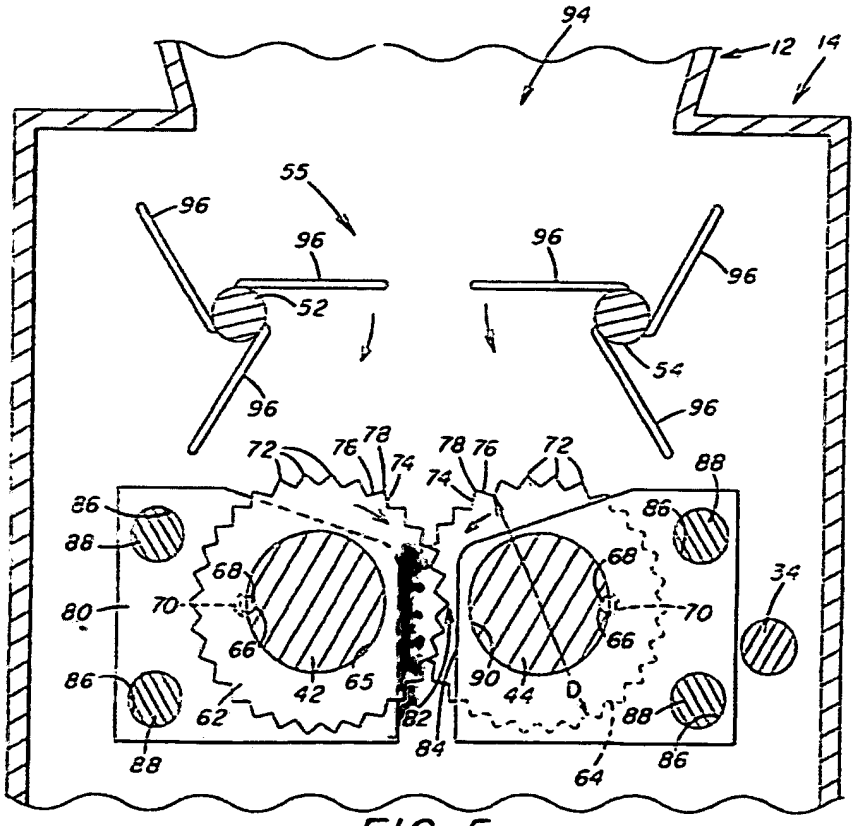

FIG. 5